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UNITED STATES PATENT AND TRADEMARK OFFICE



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Page 1 of 1  
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COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/045,830	10/29/2001	Eugene Dolgoff	H35-032

CONFIRMATION NO. 3697

FORMALITIES LETTER



\*OC00000007894347\*

003775  
ELMAN & ASSOCIATES  
P O BOX 1969  
MEDIA, PA 19063-8969

Date Mailed: 04/18/2002

NOTICE TO FILE CORRECTED APPLICATION PAPERS

***Filing Date Granted***

This application has been accorded an Application Number and Filing Date. The application, however, is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given **TWO MONTHS** from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- A substitute specification in compliance with 37 CFR 1.52 because:
  - Line spacing on the specification, claims, or abstract is not 1-1/2 or double spaced (See 37 CFR 1.52(b)).
- An Abstract not to exceed 150 words in length, commencing on a separate sheet (37 CFR 1.72(b)).

*A copy of this notice **MUST** be returned with the reply.*

*Y.G.*

Customer Service Center  
Initial Patent Examination Division (703) 308-1202  
PART 2 - COPY TO BE RETURNED WITH RESPONSE



#3

First Class Mail with Certificate of Mailing

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re U.S. Patent Application No: 10/045,830

Title: **THREE-DIMENSIONAL DISPLAY SYSTEM**Inventor(s): **DOLGOFF, Eugene**Filing Date: **October 29, 2001**Art Unit **NA**Atty. Docket No: **H35-032**

BOX MISSING PARTS

Commissioner for Patents

Washington D.C. 20231

COPY OF PAPERS  
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CORRECTED APPLICATION PAPERS**

Applicant responds therewith to a "Notice of File Corrected Application Papers" mailed April 19, 2002. Applicant includes the following required items:

**Line spacing:**

A substitute specification, claims and abstract with line spacing set at 1.5. Applicant notes that only the claims of the application as filed were single space. However, to adequately respond to the aforementioned notice, applicant submits another description with spacing of 1.5 lines that is identical to that filed on October 29, 2001.

**Abstract:**

A substitute abstract that does not exceed the 150 word maximum.

**STATEMENT UNDER M.P.E.P. 608.01(q)  
Substitute Specification**

Gerry J. Elman, Reg. no. 24, 404, the Attorney of record for the applicant, Eugene Dolgoff, hereby submits a substitute specification totaling 117 sheets and claims totaling 7 sheets to replace pages 1-117 of the description and claims sheets 1-7 of application number 10/045,830, filed October 29, 2001. Applicant avers that the replacement description sheets 1-117 and claims 1-7 are textually **identical** to those originally filed (only the line spacing on claims pages 1-7 has been changed); therefore **no** marked-up version to show changes made is being submitted.

The original abstract has been replaced by a replacement abstract that does not exceed the maximum length of 150 words. Applicant includes a marked-up version to show changes made.

Applicant avers that no new matter has been added to the substitute specification, claims, and abstract submitted herewith.

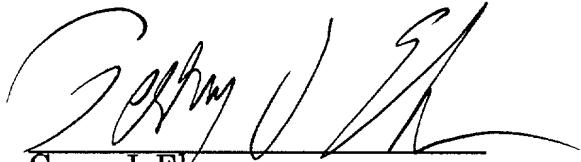
I hereby declare that all statements made herein of my own knowledge are true; that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under

*Letter Accompanying*  
*Notice to File Corrected Application Papers*  
Application no. 10/045,830

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Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted:



Gerry J. Elman  
Attorney for Applicant(s)  
Reg. No. 24,404  
ELMAN & ASSOCIATES  
Customer No. 003775

Date: May 6, 2002

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An image display system provides a viewer with an experience of 3-D as seen in real life by presenting at least two planar images at different depths, e.g. for a computer monitor. Not only is such a system relatively low in cost and remarkably easy to use, but video images in accordance with three dimensional images by presenting a composite image source. The system includes first and second image sources, a beamcombiner, a lens and a reflective element. The reflective elements reflects the image of the second image source to the beamcombiner. The first this invention can be transmitted using much less bandwidth than other 3-D imaging techniques. Such apparatus presents the images in positions whereby each is optically spatially separated from the other (often along a co-axial line of sight for a viewer (i.e. co-aligned)). The display provides traditional 2-D cues, parallax, lateral binocular disparity and depth disparity. Such apparatus desirably employs at least one optical element as a beamcombiner, optionally a semi-silvered mirror or a refractive element such as the Fresnel semi-prism disclosed herein. The foreground image plane appears transparent except where there are objects, allowing objects on the background image plane to be seen when not obscured by foreground objects. In many embodiments, it is preferred that background objects are not visible through images of opaque objects in the foreground. Various techniques for the formation of such images are disclosed, including techniques of controlling relative brightness of the two images, dimming out portions of the background image that are occluded by the foreground image, and using a mask such as a light valve in the image path to occlude portions of the background image that are behind foreground objects. Additionally, disclosed are other techniques to determine whether a portion of a transmitted image is to be displayed on the foreground or background including image capture from a pair of vantage points, flashing a reference grid on the scene and calculating depth therefrom, creating depth information as a byproduct of computer animation, etc. Some embodiments use at least one lens to create a real image as part of the display; others present virtual images. Disclosed are various housings adapted to be fastened to a CRT or other image source, providing an aperture through which a viewer observes the display. The apparatus may employ relatively inexpensive annular lenses disclosed herein, that nevertheless minimize scatter and flare by employing a light absorptive element adjacent the vertical rises of the lens to minimize the amount of light passing through and reflected from the rises. A sandwich of such optical elements provides a compact and lightweight display adapter that can be placed in front of a CRT on which the foreground and background are shown on the top and bottom respectively. The sandwich comprises the Fresnel semi-lens disclosed herein, aligned with a Fresnel beam combining element, e.g. a Fresnel semi-prism disclosed herein. The viewer sees two images, one at about the plane of the CRT screen and another a few inches behind it. If aspect ratio correction is desired, the image source is compressed on the CRT screen and a Fresnel cylinder lens is disposed in front of the aforesaid sandwich. Also disclosed is a

~~multiplayer/multiuser video adapter, allowing two or more users to share a single image source and yet have mutually independent and "secret" 3-D (or 2-D) views of a screen. A virtual monitor is disclosed that minimizes glare that would otherwise reflect from a CRT screen, provides improved security through controlled angle of view, and reduces exposure to radiation. In a "decoder" embodiment, the foreground and background each contain incomplete parts of an overall image or message, so only the viewer of both co-aligned images sees the overall image or message. and second image sources, the beamcombiner, and the single lens present a foreground image and a background image, with the background image presented at a greater distance from the viewer than the foreground image. The viewer perceives the foreground image and the background image as part of a scene having depth.~~

#3

## CERTIFICATE OF MAILING BY FIRST CLASS MAIL (37 CFR 1.8)

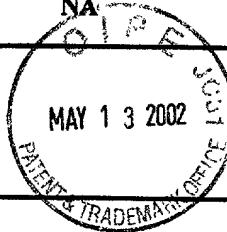
Applicant(s): Eugene DOLGOFF

Docket No.

H35-032

Serial No.  
10/045,830Filing Date  
October 29, 2001Examiner  
NAGroup Art Unit  
NA

Invention: THREE-DIMENSIONAL DISPLAY SYSTEM



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I hereby certify that this Response to Notice to File Corrected Application Papers (see below)  
(Identify type of correspondence)

is being deposited with the United States Postal Service as first class mail in an envelope addressed to: The

Commissioner of Patents and Trademarks, Washington, D.C. 20231-0001 on

May 6, 2002

(Date)

Gerry J. Elman

(Typed or Printed Name of Person Mailing Correspondence)

(Signature of Person Mailing Correspondence)

Note: Each paper must have its own certificate of mailing.

Enclosed herewith:

Notice to File Corrected Application Papers, Part 2, 1 sheet;  
 Response to Notice to File Corrected Application Papers, 1 sheet;  
 Letter Accompanying Response, 2 sheets; Substitute specification  
 117 sheets; substitute claims, 7 sheets; substitute abstract, 1 sheet;  
 marked-up version of abstract, 2 sheets. acknowledgment  
 postcard.

**Response To Notice To File Missing Parts Of Application  
Filing Date Granted (PTO-1533)(Small Entity)**

Docket No.

H35-032

In Re Application Of: Eugene DOLGOFF



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#3

Serial No.  
10/045,830

Filing Date  
10/29/2001

Examiner  
NA

Group Art Unit  
NA

Invention:

**THREE-DIMENSIONAL DISPLAY**

**TO THE ASSISTANT COMMISSIONER FOR PATENTS:**

**Box Missing Parts**

**Corrected Application Papers**

This is a response to the Notice to File Missing Parts of Application - Filing Date Granted (PTO-1533) mailed on

April 18, 2002

Date

Enclosed herewith for filing are the following:

**Corrected Application Papers**

- A copy of the Notice to File-Missing Parts of Application - Filing Date Granted (PTO-1533). (REQUIRED)
- An oath or declaration in compliance with 37 CFR 1.63, including residence information and identifying the application by the above Application Number and Filing Date.
- A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date.
- An oath or declaration in compliance with 37 CFR 1.63 listing the names of all inventors and signed by the omitted inventor(s), identifying this application by the above Application Number and Filing Date.
- A verified English translation of the non-English language application papers as originally filed. It is requested that this translation be used as the copy for examination purposes in the United States Patent and Trademark Office.
- \_\_\_\_\_ verified small entity declaration(s)
  - is/are attached.
  - was/were filed on \_\_\_\_\_
- A separate request for refund.
- Other (list):

Substitute specification, 117 sheets; substitute claims 7, sheets, revised abstract, 1 sheet; marked-up version to show changes made to abstract, 2 sheets; transmittal letter, 2 sheets, acknowledgment postcard.